Efficacy of Pulsed Radio Frequency Energy Therapy in Temporomandibular Joint Pain and Dysfunction

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ABSTRACT: This randomized double-blind study evaluated the effectiveness of pulsed radio frequency energy therapy (PRFE) in patients with emporomandibular joint arthralgia. Forty subjects (age range 22 to 55 yrs.) were assigned randomly into two equal groups: (1) Experimental group received PRFE using the Energex unit (Energex, Inc. Emerson, New Jersey) and (2) Control group received PRFE placebo treatment using a sham device. Both groups received six applications to the TMJ area over two weeks.

Data were analyzed for the following times: baseline, first and second follow-up visits. Numerical RatingScale scores for TMJ pain showed a significant reduction over time for the experimental group (mean = 6.13 to 3.05, $p<0.001$). There was also a significant effect for the controls (mean = 5.35 to 4.20, $p=0.01$).

The effect for experimental subjects was a mean reduction of 3.07 versus 1.15 for controls. The significant
reduction in controls was attributed to the placebo effect. The experimental group showed a significant increase in mouth opening (mean = 34.95 to 41.70 mm, $p=0.002$), right lateral movement (mean = 7.85 to 10.80 mm, $p=0.001$) and left lateral movement (mean = 7.65 to 10.85 mm, $p<0.0001$). No significant ($p>0.1$) change in the control group occurred for mouth opening (mean = 38.50 to 39.65 mm), right lateral movement (mean = 8.60 to 8.75 mm) and left lateral movement (mean = 8.50 to 8.80 mm). No side effects were reported during the treatment and the two week follow-up. These results suggest strongly that PRFE is a safe and effective treatment for TMJ arthralgia as well as for increasing mandibular range of motion.